WHAT IS CLAIMED IS:

1. A magnetorheological fluid comprising iron particles and a fluid component, wherein the fluid component comprises a carrier fluid and an additive; wherein the additive comprises a parafluoropropene and oxygen polymerized amide derivative and/or a functionalized perfluorinated polyether fluid.

2. The magnetorheological fluid of claim 1 wherein the iron particles range in size from about 0.2 to about 50 microns.

3. The magnetorheological fluid of claim 2 wherein the iron particles range in size from about 0.4 to about 10 microns.

4. The magnetorheological fluid of claim 3 wherein the iron particles range in size from about 0.5 to about 9 microns.

5. The magnetorheological fluid of claim 1 wherein the iron particles comprise about 1 to about 60% (v/v) of the total magnetorheological fluid volume.

6. The magnetorheological fluid of claim 5 wherein the iron particles comprise about 10 to about 50% (v/v) of the total magnetorheological fluid volume.

7. The magnetorheological fluid of claim 6 wherein the iron particles comprise more preferably from about 20 to about 40% (v/v) of the total magnetorheological fluid volume.

8. The magnetorheological fluid of claim 1 wherein the carrier fluid is selected from the group consisting of silicone, hydrocarbon, esters, ethers, fluorinated esters, fluorinated ethers, mineral oil, unsaturated hydrocarbons, and combinations thereof.

9. The magnetorheological fluid of claim 8 wherein the carrier fluid comprises one or more perfluorinated polyethers.

10. The magnetorheological fluid of claim 1 wherein the additive comprises a parafluoropropene and oxygen polymerized amide derivative.

11. The magnetorheological fluid of claim 1 wherein the additive comprises a functionalized perfluorinated polyether fluid.

12. The magnetorheological fluid of claim 11 wherein the functionalized perfluorinated polyether fluid additive comprises one or more functional groups selected

from the group consisting of silane, phosphate, hydroxyl, carboxylic acid, amine dihydroxyl, ethoxy ether, isocyanate, aromatic, ester and alcohol functions.

13. The magnetorheological fluid of claim 11 wherein the functionalized perfluorinated polyether fluid additive comprises a poly(hexafluoropropylene epoxide) with a carboxylic acid located on the terminal fluoromethylene group.

14. The magnetorheological fluid of claim 1 wherein the additive comprises from about 0.1 to about 20% (v/v) of the fluid component.

15. The magnetorheological fluid of claim 14 wherein the additive comprises from about 1 to about 15% (v/v) of the fluid component.

16. The magnetorheological fluid of claim 15 wherein the additive comprises from about 2 to about 10 % (v/v) of the fluid component.

17. The magnetorheological fluid of claim 1 comprising:

about 28% (v/v) iron particles; and

about 72% (v/v) fluid component;

wherein said fluid component comprises about 5% (v/v) additive and about 95% (v/v) perfluorinated polyether carrier fluid.

18. The magnetorheological fluid of claim 17 wherein the additive comprises poly(hexafluoropropylene epoxide) with a carboxylic acid located on the terminal fluoromethylene group.

19. The magnetorheological fluid of claim 17 wherein the additive comprises a parafluoropropene and oxygen polymerized amide derivative.

20. A magnetorheological fluid comprising iron particles and a fluid component used in combination with a prosthetic knee;

wherein the fluid component comprises a carrier fluid and an additive;

wherein the additive comprises a parafluoropropene and oxygen polymerized amide derivative and/or a functionalized perfluorinated polyether fluid.

21. The magnetorheological fluid of claim 20 wherein the prosthetic knee operates in shear mode.

22. The magnetorheological fluid of claim 20 wherein the iron particles range in size from about 0.2 to about 50 microns.

23. The magnetorheological fluid of claim 21 wherein the iron particles range in size from about 0.4 to about 10 microns.

24. The magnetorheological fluid of claim 22 wherein the iron particles range in from about 0.5 to about 9 microns.

25. The magnetorheological fluid of claim 20 wherein the iron particles comprise about 1 to about 60% (v/v) of the total magnetorheological fluid volume.

26. The magnetorheological fluid of claim 25 wherein the iron particles comprise about 10 to about 50% (v/v) of the total magnetorheological fluid volume.

27. The magnetorheological fluid of claim 26 wherein the iron particles comprise more preferably from about 20 to about 40% (v/v) of the total magnetorheological fluid volume.

28. The magnetorheological fluid of claim 20 wherein the carrier fluid is selected from the group consisting of silicone, hydrocarbon, esters, ethers, fluorinated esters, fluorinated ethers, mineral oil, unsaturated hydrocarbons, and combinations thereof.

29. The magnetorheological fluid of claim 28 wherein the carrier fluid comprises one or more perfluorinated polyethers.

30. The magnetorheological fluid of claim 20 wherein the additive comprises a parafluoropropene and oxygen polymerized amide derivative.

31. The magnetorheological fluid of claim 20 wherein the additive comprises a functionalized perfluorinated polyether.

32. The magnetorheological fluid of claim 31 wherein the functionalized perfluorinated polyether fluid additive comprises one or more functional groups selected from the group consisting of silane, phosphate, hydroxyl, carboxylic acid, amine dihydroxyl, ethoxy ether, isocyanate, aromatic, ester and alcohol functions.

33. The magnetorheological fluid of claim 32 wherein the functionalized perfluorinated polyether fluid additive comprises a poly(hexafluoropropylene epoxide) with a carboxylic acid located on the terminal fluoromethylene group.

34. The magnetorheological fluid of claim 20 wherein the additive comprises from about 0.1 to about 20% (v/v) of the fluid component.

35. The magnetorheological fluid of claim 34 wherein the additive comprises from about 1 to about 15% (v/v) of the fluid component.

36. The magnetorheological fluid of claim 35 wherein the additive comprises from about 2 to about 10% (v/v) of the fluid component.

37. The magnetorheological fluid of claim 20 comprising:

about 28% (v/v) iron particles; and

about 72% (v/v) fluid component;

wherein said fluid component comprises about 5% (v/v) poly(hexafluoropropylene epoxide) with a carboxylic acid located on the terminal fluoromethylene group additive and about 95% (v/v) perfluorinated polyether carrier fluid.

38. The magnetorheological fluid of claim 20 comprising:

about 28% (v/v) iron particles; and

about 72% (v/v) fluid component;

wherein said fluid component comprises about 5% (v/v) parafluoropropene and oxygen polymerized amide derivative additive and about 95% (v/v) perfluorinated polyether carrier fluid.

39. The magnetorheological fluid of claim 20 wherein the magnetorheological fluid is operable over a temperature range from about 10 to about 115° F.

40. The magnetorheological fluid of claim 20 wherein the carrier fluid has a viscosity at 104° F of about 10 to about 100 cSt.

41. The magnetorheological fluid of claim 40 wherein the carrier fluid has a viscosity at 104° F of about 30 to about 80 cSt.

42. The magnetorheological fluid of claim 41 wherein the carrier fluid has a viscosity at 104° F of about 50 to about 70 cSt.

43. The magnetorheological fluid of claim 20 wherein the carrier fluid has a viscosity index from about 100 to about 340 based on kinematic viscosity at 104 and 212°F.

44. The magnetorheological fluid of claim 43 wherein the carrier fluid has a viscosity index from about 120 to about 320 based on kinematic viscosity at 104 and 212°F.

45. The magnetorheological fluid of claim 20 wherein the carrier fluid has a pour point ranging from about –70°C to about –40°C.

46. The magnetorheological fluid of claim 20 wherein the carrier fluid has a percent volatility at 121°C ranging from about 0.01% to about 20%.